

NEW SPECIES OF COLEOPTERA FROM WESTERN NORTH AMERICA

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FAMILY CICINDELIDAE

Cicindela oregona navajoensis Van Dyke, new subspecies

Of the same general size and form as the usual *oregona* but conspicuously cupreous above, the pro-, meso-, and metapleurae brilliantly cupreous, the remainder of the ventral surface metallic green with a bluish tinge here and there; the elytral yellow markings all rather broad, especially the median which often has the oblique inner portion as broad as the outer transverse part, the humeral lunule generally broken and the apical lunule rarely complete. As extreme variants we may have the posterior portion of the humeral lunule connected with the outer portion of the median.

Holotype, male, allotype, female (Nos. 5864 and 5865, Mus. Calif. Acad. Sci., Ent.) and numerous designated paratypes from a series of forty specimens collected at KAYENTA, 15 miles W N W, ARIZONA, June 17 and 24, 1933, and other dates in June, 1933, and at Betatakin and Nova Mt., July 13, 1933, all in Navajo County, Arizona. These were all collected by H. N. Hultgren of the Ansel F. Hall Expedition of 1933.

This subspecies resembles the race *guttifera* of *oregona* in having the pleurae cupreous whereas they are green in typical *oregona*. Superficially the cupreous upper surface contrasts with the usual chocolate brown of *oregona* as well as *guttifera* and marks it off as distinctly as does the brilliant color of the subspecies *maricopa*. In its color relationship to *oregona* it parallels *arizonica* as compared with *carthagera*.

FAMILY MELOIDAE

Lytta nevadensis Van Dyke, new species

Upper surface glabrous, dull blue, antennae, mouthparts, tibiae and tarsi black, and with a small red frontal spot. Head quadrate behind antennae and slightly broader than long, smooth, shining and sparsely punctured. Antennae slightly longer than head and prothorax, third segment a bit more than twice as long as broad, segments 4-10 moniliform, gradually broader or more robust outwardly and all somewhat longer than broad, the eleventh fusiform

and about three times as long as broad. Pronotum a little narrower than head, sides rounded, narrowed in front; disc moderately convex, finely alutaceous and somewhat dull, with a feeble median longitudinal groove at most and with a few fine punctures, chiefly towards the sides. Elytra finely rugose and feebly shining. Legs slender, anterior tibiae of males with two spurs, middle tibiae of males much bowed and the outer spur of hind tibiae stouter than inner, broader and concave at tip. Fifth ventral segment of male truncate, sixth emarginate and pygidium rounded at apex. Length: male holotype 9 mm., female allotype 11 mm.

Holotype, male, allotype, female (Nos. 5866 and 5867, Mus. Calif. Acad. Sci., Ent.), and numerous designated paratypes from a series of thirty-nine specimens collected by myself, July 3, 1941, in KYLE CANYON of the CHARLESTON MTS. of southern NEVADA. Most were feeding on *Cowania stansburniana*.

This species is related to *stygica* (Lec.) and runs to that in Fall's key (Trans. Amer. Ent. Soc., XXVII, 1901, p. 299) but it is eminently distinct. The variable *stygica* in all its color phases is always more shining, generally much larger, *nevadensis* varying from 6-11 mm. in length whereas *stygica* ranges from 7-14 mm., with longer antennae, the individual segments conspicuously longer, the upper surface often more or less pilose and the middle tibiae of males less bowed. The small size and supopaqueness of *nevadensis* are its most evident features.

Lytta sonora Van Dyke, new species

Small, robust, head and prothorax shining, elytra somewhat dull; orange-yellow with antennae, palpi, eyes, tarsi, claws excepted, four spots on pronotum and a broad vitta, variable in length, extending from behind humeri towards the apex of elytra, black. Head quadrate behind the antenna, broader than long and sparsely punctured. Antennae short, slightly longer than head and prothorax, third segment twice as long as broad, segments 4-10 moniliform, slightly broader outwardly except that in the male segments 4-6 are somewhat broader than seventh and eighth, the eleventh fusiform and about twice as long as broad. Pronotum narrower than head, campanulate, smooth, sparsely and finely punctured, sparsely and finely pilose, and ornamented with four small black spots, two in the middle and one on each side, slightly in advance of the others. Elytra finely, densely rugose and clothed with a sparse, short pile. Legs moderately robust, anterior tibiae of males with two spurs, middle tibiae of males feebly bowed, and the inner spur of hind tibiae short and sharp, the outer longer, broader and concave at tip. Fifth ventral segment of males truncate, the sixth deeply emarginate. Length 8 mm.. breadth 3 mm.

Holotype, male, allotype, female (Nos. 5868 and 5869, Mus. Calif. Acad. Sci., Ent.), the latter somewhat imperfect, and eight paratypes, collected at CARBO, SONORA, MEXICO, November 24, 1933, by H. S. Gentry and all in the Van Dyke collection of the California Academy of Sciences.

This species is closely related to *scitula* Champ., also from Mexico, but differs by being somewhat smaller, the head and pronotum being finely and sparsely punctured, not coarsely and densely punctured as in *scitula*, the elytra with but one black vitta to each elytron whereas in *scitula* there is both a submarginal and sutural black vitta and the males have the fourth and fifth antennal segments but little more robust than the following. The two species should be placed close to *Lytta biguttata* Lec. from our own Southwest though the latter has no vittae, merely a black subapical spot, and is much larger.

PLEUROSPASTA MIRABILIS (Horn)

In the semiarid regions east of the Sierra Nevada mountains and extending from near Reno, Nevada, south to the Coachella and Imperial valleys of California and to southern Arizona, typical specimens of the above-named beetle may be found running over the desert sands. As defined by Horn in his original description, the most evident features are that the general color is "pale rufous, elytra pale yellowish," and "oblong, broader behind, humeri moderately prominent, margin reflexed, suture elevated, and with four strongly elevated costae on the disc of each elytron, extending from base nearly to apex," and with "four small brown spots at base, arranged in arc with convexity backwards, an irregular transverse band at middle interrupted by the costae, and a narrow subapical band." These characters will apply to most specimens found in the territory indicated above. Farther to the east, as in New Mexico, Texas and Old Mexico, another race exists. This as shown by two specimens which I have from Loving, New Mexico, collected May 11 and June 3, 1945, by J. W. MacSwain, one specimen from Pecos, Texas, collected May 15, 1927, by J. O. Martin, and two specimens which I have received on loan from the Chicago Natural History Museum from Nuevo Laredo, Tamaulipas, Mexico, June 14, 1941 (Seevers and Dybas), which have the dominant color of the elytra almost a pure white, the four basal spots reduced to two, the post median band red rather than brown and black spots placed here

and there especially on the anterior and posterior margin of the bar. The costae as they cross the band are joined by transverse costae forming an irregular reticulation throughout the area. In addition the apical band is much more extensive than in typical forms and the prothorax narrower and with the disc more distinctly bituberculate and pitted. In the "Biologia Centrali-Americana," the illustration is of this race.

This race I believe is worthy of a name, so I will designate it as *Pleurospasta mirabilis reticulata* Van Dyke, new subspecies, and indicate the LOVING, NEW MEXICO, specimen collected on June 3, 1945, as the holotype (No. 5870, Mus. Calif. Acad. Sci., Ent.), the other specimens as paratypes, two in the collection of the California Academy of Sciences, and the Mexican specimens returned to the Chicago Natural History Museum.

FAMILY SCARABAEIDAE

Aphodius inyoensis Van Dyke, new species

Of moderate size, nigropiceous, rufopiceous beneath, smooth and shining. Head without tubercles, rather evenly convex above, but little flattened laterally and with narrow side margins, the disc finely, evenly granulate throughout, the clypeus with a broad emargination in front, bounded laterally by obtuse angles, sometimes by a distinct tooth, genae prominent, the sides oblique, more or less straight and divergent. Prothorax one-fifth broader than long, sides arcuate, narrowing behind, hind angles broadly rounded, base feebly arcuate and with sides narrowly margined, the margin fading out at hind angles; disc moderately convex, finely, densely punctured and with a few larger punctures irregularly scattered though most numerous laterally. Elytra elongate oval, one-fourth longer than broad, feebly narrowed towards base, humeri well rounded; disc convex, distinctly striate, the striae finely punctured, intervals flattened forwards, feebly convex apically and each interval with a row of small punctures near their margins and a few irregularly scattered between the rows; wings rudimentary. Beneath finely alutaceous, moderately coarsely punctured in front and finely punctured on the abdomen, the punctures mostly placed transversely along the margins of the sclerites. Mesosternum with an acute carina between the legs which is laterally bounded by well developed episternal carinae. Posterior femora finely sparsely punctured; the hind margin of the tibiae in fresh specimens fimbriate with short equal spinules; first segment of hind tarsi about equal in length to the two following. Length 6 mm., breadth 3 mm.

Holotype (No. 5871, Mus. Calif. Acad. Sci., Ent.) and numerous designated paratypes from a series of fifty specimens collected by

myself, from beneath cow manure, near BIG PINE, INYO COUNTY, CALIF., March 27, 1937.

This species belongs in the *cadaverinus* group of *Aphodius* and according to the latest table of the group, that by Saylor (Proc. Biol. Soc. Wash., 53: 99-103, 1940) would run close to *washtuca* Robinson and *rugoclypeus* Hinton, both of which are definitely larger and more robust and with numerous coarse pronotal punctures. The distinctive features of *inyoensis* are the granulate head, the finely, densely punctured pronotum and the flattening of the elytral intervals with the double row of minute punctures. The gross pronotal punctation so evident in all the other members of the group is lacking here.

Aphodius fenyese Van Dyke, new species

Of moderate size, somewhat elongate and convex, piceous above, legs, under side and portions of head rufous. Antennae and palpi pale. Head moderately convex, without tubercles but with front somewhat gibbous, the occiput rather coarsely but not closely punctured, the sides finely and sparsely punctured; the clypeus very finely, somewhat obscurely punctured, feebly and broadly emarginate in front, the angles at the sides of the emargination distinctly dentate, the sides explanate, margins oblique, the genae rather prominent and obtuse angled. Prothorax about one-third wider than long, as wide in front as behind, sides feebly arcuate, the margins broadly explanate, a feeble impression near the hind angles which are well rounded, the base feebly arcuate and without marginal line; the disc moderately convex, with coarse punctures rather numerous over the basal two-thirds, denser at sides, and the apical portion and a median longitudinal space very finely and sparsely punctured. Elytra a little narrower at base than prothorax, gradually wider posteriorly, humeri obtuse; disc with striae well impressed and finely, closely punctured, the intervals flattened in front, feebly convex apically and finely punctulate. Beneath, the mesosternum coarsely, densely punctured, the mesopleurae more finely punctured, and the abdomen alutaceous and rather shallowly, sparsely punctured, the mesosternum not carinate. Anterior tibiae smooth in front, strongly tridentate externally but not crenate above, the first tarsal segment shorter than second. Posterior femora sparsely punctate, the hind margins of the tibia fimbriate with unequal spinules; and the first segment of the hind tarsi almost equal to the three following. Length 8 mm., breadth 3.5 mm.

Holotype (No. 5872, Mus. Calif. Acad. Sci., Ent.) and one paratype, collected at FLAGSTAFF, ARIZONA, by Dr. A. Fenyese and now in the Fenyese Collection at the California Academy of Sciences.

This specimen belongs in the subgenus *Platyderides* Schmidt and is apparently somewhat related to *depressiusculus* Schm. (*margi-natus* Lec.). The distinctive characters are in the head, especially the clypeal emargination with its lateral dentate angles and the pronotum with base without margin and the disc with its numerous coarse punctures, simulating in this regard many members of the *cadaverinus* group rather than most of its associates in *Platyderides*.

Polyphylla nubila Van Dyke, new species

Short and robust, reddish-brown, head and pronotum generally darker, the palpi, antennae and legs rufous, head and pronotum clothed with long, silky, light brown pile, sparser on basal portion of pronotum; the elytra irregularly clouded with patches of elongate white scales densely placed and with single scales peppered over the intervening areas. Head coarsely, densely punctured; clypeus with reflexed margins, densely, shallowly punctured, sides straight, diverging forwards, the front margin transverse and feebly bimarginate and with outer angles well rounded; the antennae (males) with a club that is 5 mm. long, 1 mm. longer than head, 2 mm. wide distally, and very much arched, and the terminal segments of maxillary palpi fusiform and at least three times as long as broad. Prothorax convex, apex emarginate, sides subangulate, the margin entire in front, feebly crenulate behind, the hind margin broadly lobed, the disc rather coarsely, irregularly punctured, a moderate longitudinal sulcus at middle, concealed to a certain extent by the stripe of white scales, and a large irregular impression on each side, also ornamented with scales, also numerous scales near the lateral and posterior margins. Elytra one-third longer than broad, with the surface irregularly, shallowly punctured and rugose and shining where not covered with scales, the apices broadly rounded and sutural angles right-angled. Pygidium densely clothed with white scales mixed with fine, short hairs except for a longitudinal line at middle which is naked and finely, transversely rugose. Beneath, fore body densely clothed with long, silky, light fulvous pile, the abdomen with white scales more or less densely disposed over the surface, especially near the posterior margins of the sclerites. Fore tibiae with a blunt tooth, near apex in male (mere knob in two specimens). Length 22 mm., breadth 10 mm.

Holotype, male (No. 5879, Mus. Calif. Acad. Sci., Ent.) and three male paratypes, collected at light, at ATASCADERO, SAN LUIS OBISPO COUNTY, CALIF., May 23, 1946, by George S. Mansfield, and kindly presented by him to the Academy.

This species stands well apart among Pacific Coast species because of its irregular, blotch like markings. Its ornamentation is even more irregular than in *variolata* Hentz and more pronounced.

Polyphylla diffracta arida Van Dyke, new subspecies

Rather small, rufous, head and pronotum generally darker, the palpi, antennae and legs somewhat lighter in color, head and pronotum rather sparsely clothed with long, fulvous pile; the pronotum with the usual three scaly vittae well marked, the elytra with the sutural vitta narrow and generally complete, the two discal and lateral vittae always much interrupted, so much in fact that the usual striped appearance is to a great extent lost, the intermediate areas irregularly peppered with scales. Head coarsely, densely punctured; clypeus with reflexed margins, densely punctured though punctures generally concealed by densely placed scales, sides straight or feebly sinuate and divergent, the front margin transverse or vaguely bimarginate, with the outer angles well defined, blunt or feebly rounded at most; the antennae (males) with a club that is 4 mm. long, subequal in length with the head, 1 mm. wide distally and moderately arched, the terminal segment of maxillary palpi fusiform and about three times as long as broad. Prothorax convex, apex emarginate, sides subangulate, the margin entire in front, crenulate behind; the disc rather coarsely irregularly punctured, the median longitudinal sulcus and lateral impressions well marked and covered with densely placed scales, the rest of the area with scattered scales. A dense collar of long fulvous pile also projects from beneath the hind margin of prothorax as usual. Elytra 3 mm. longer than broad, with the surface irregularly shallowly punctured and rugose, the naked areas shining and the apices broadly rounded and sutural angles right-angled. Pygidium transversely rugose and with a uniform but not dense covering of elongated scales and fine pile. Beneath, the fore body densely clothed with long, fulvous pile, the abdomen irregularly covered with scales. Fore tibiae of males in general with two well developed lateral teeth (in about half of the specimens the upper tooth is abortive or absent). Tarsal claws all armed with a pronounced and acute tooth near base. Length 20 mm., breadth 9 mm.

Holotype, male (No. 5874, Mus. Calif. Acad. Sci., Ent.) and numerous designated paratypes from a series of twenty-two specimens, all males, collected at DUNS PLC., NAVAJO MT., alt. 5580 ft., SAN JUAN COUNTY, UTAH, by H. N. Hultgren.

When first examined, I was inclined to consider the above a distinct species but upon further study have come to believe that it is only an extreme type or desert phase of *diffracta* Casey; it is smaller, lighter in color, rufous as against reddish brown and has the elytral maculation as irregular as in *variolora* Hentz whereas *diffracta* is quite regularly vittate in that regard. On the Ansel Hall Expedition, several quite typical *diffracta* were taken near Kayenta, Arizona, not such a great distance from the type locality of *arida*.